



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D4720-1

Job Sheet 195280



249 PL

Part No: D4720-1

Job Qty: 250 pcs

Part Name: Spacer



Part Weight: 0 lbs

Job Created: 5/16/19

Due Date: 9/6/19

Type: Stock

Status: New

Priority: Medium

Job Tracking No:

Created By: Kimberley Guerin

Description:

Note: DWG REV A IPP REV:A 12.11.20 NEW ISSUE DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Hrs	Run Hrs	Workcenter/Supplier	Sign-off
170	Purchasing	250 pcs	9/6/19	0.00	0.00		Purchasing - 1	
							Purchasing - 2	
							Purchasing - 3	
180	Packaging 2-1 - Receive -	250 pcs	9/6/19	0.00	0.00		Packaging 2 - 1 - B4B	SEP 17 2019
							Packaging 2 - 2 - B4B	
							Packaging 2 - 3 - B4B	
							Packaging 2 - 5 - B4B	
							Packaging 2 - 4 - B4B	
							Packaging 2 - 6 - B4B	
							Packaging 2 - 7 - B4B	
							Packaging 2 - 8 - B4B	
							Packaging 2 - 9 - B4B	
							Packaging 2 - 10 - B4B	
							Packaging 2 - 11 - B4B	
							Packaging 2 - 12 - B4B	
							Packaging 2 - 13 - B4B	SEP 17 2019
							Packaging 2 - 14 - B4B	
							Packaging 2 - 15 - B4B	
							Packaging 2 - 16 - B4B	
							Packaging 2 - 17 - B4B	
							Packaging 2 - 18 - B4B	
							Packaging 2 - 19 - B4B	
							Packaging 2 - 20 - B4B	
							Packaging 2 - 21 - B4B	
							Packaging 2 - 22 - B4B	
							Packaging 2 - 23 - B4B	
							Packaging 2 - 24 - B4B	
							Packaging 2 - 25 - B4B	
							Packaging 2 - 26 - B4B	
							Packaging 2 - 27 - B4B	
							Packaging 2 - 28 - B4B	



Container No: S214318



Part: D4720-1

Job No: 195280

Serial No/Batch: S214318

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Date: 08/17/19

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 5/16/19 3:21 PM Dart.Guerin.Kimberley

5/16/2019

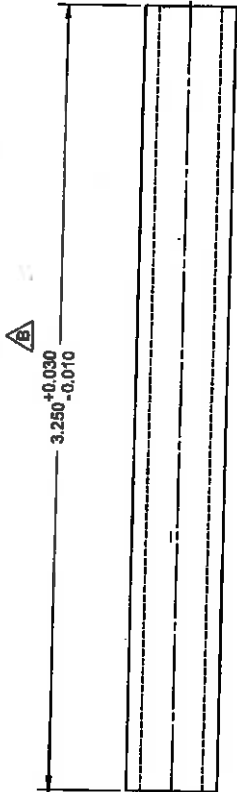
[Dart Hawkesbury] Job Sheet - Guerin, Kimberley

					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
185	QC 6	250 pcs	9/6/19	0.00 0.00	QC 6 - 9	
					QC 6 - 68	DAS
					QC 6 - 61	81
					QC 6 - 40	9-89
190	Packaging 3-1 - Stock - B4B	250 pcs	9/6/19	0.00 0.00	Packaging 3 - 1 - B4B	SEP 17 2019
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	On
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
200	QC 21 - SA	250 pcs	9/6/19	0.00 0.00	QC 21 - SA - 21	DAS
					QC 21 - SA - 70	21
					QC 21 - SA - 53	9-89
Part Op 170 - ISSUE P/O: _____ SUPPLIER: E.T.M. INDUSTRIES INC. MANUFACTURE AS PER DWG Descriptions: C OF C IS REQUIRED 190 - (Identify as per dwg & Stock Location: _____) ***STOCK IN SKIDTUBE CELL*** LOCATION : LG001 200 - (QC21- Final Inspection - Work Order Release)						
Job BOM						
Part / Item	Component Name	Quantity	Operation	Container		
D4720-1P	Spacer	250 Ea (1 ea)	170-Purchasing	5214316		

Plex 5/16/19 3:21 PM Dart.Guerin.Kimberley

Job Allocations					
Operation	Component Part	Required	Inventory	Allocated	
170-Purchasing	D4720-1P	250	0	0	
Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Spacer	0.375inches	+ 0.006 - 0.001	0.381 0.374	
2	Spacer	0.259inches	+ 0.006 - 0.001	0.265 0.258	
3	Spacer	0.058inches	± 0.010	0.068 0.048	
4	Spacer	3.250inches	+ 0.030 - 0.010	3.280 3.240	

Plex 5/16/19 3:21 PM Dart.Guerin.Kimberley



D4720-1 SPACER

NOTES:
 1) MATERIAL: 6061-T62/T6511 SEAMLESS ALUMINUM TUBING PER WW-T-700/B, AMS 4081, OR ASTM B210 / B221 / B241
 OR
 REF DART SPEC M6061T620.375W.058
 6061-T62/T6511 SEAMLESS ALUMINUM TUBING PER WW-T-700/B, QQ-A-225/B, QQ-A-200/B, QQ-A-225/B, AMS 4080 OR
 AMS 4082 OR AMS 4083, OR ASTM B210 / B221 / B241
 REF DART SPEC M6061T650.375W.58
 HEAT TREAT TO -T4/-T42 CONDITION. MIN UTS = 30 KSI (50 HREW MIN)

2) FINISH: NONE
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: NONE
 7) WEIGHT: 0.02 lbs

RELEASED
 2017-08-11
 6217-61C

APPROVED

REV.	DESCRIPTION	RP	DATE
A	NEW ISSUE	RP	12.05.10
B	CORRECT MATL. CALLOUT PER M001T62 AND SEAMLESS TUBING T1, FINISHES: 3.250 DIA W/BS 3.180, REASON PAK-12-444	BY	17.01.26
CHECKED	DESIGN	RP	DATE
MFG. APPR.	VM	RP	DATE
APPROVED	DD	RP	DATE
DE APPR.	CP	RP	DATE
DATE	17.01.26	RP	DATE
DART AEROSPACE USA, INC. EUGENE, OR			
DRAWING NO. D4720			
TITLE SPACER			
REV. B SHEET 1 OF 1			
SCALE NTS			
COPYRIGHT © 2012 BY DART AEROSPACE USA, INC.			
THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE			
NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER WITHOUT WRITTEN PERMISSION OF DART AEROSPACE USA, INC.			



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043487



Supplier: ETM001-VC
E.T.M. Industries Inc.
310 Hall Avenue, Box 610
Renfrew
ON
K7V 4E7 Canada
Phone: 613-432-6136
Fax: 613-432-8212

PO No: POHB043487
PO Date: 5/17/19
Due Date: 5/15/20
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terras: Net 30
Freight Terms:
Special Comments:

Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	195270	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	9/6/19 SEP 12 2019	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
2	195283	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	11/15/19	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
3	195294	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	2/14/20	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
4	195305	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	5/15/20	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
5	195271	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	9/6/19 AUG 30 2019	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50
6	195284	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	11/15/19	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50
7	195295	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	2/14/20	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50

Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	195306	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	5/15/20	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50
9	195272	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	9/6/19	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
							200	SEP 04 2019				2.15 d vs	
10	195285	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	11/15/19	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
11	195296	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	2/14/20	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
12	195307	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	5/15/20	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
13	195273	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	9/6/19	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
							X101	2019-08-28				4.25 d vs	DP
14	195286	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	11/15/19	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
15	195297	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	2/14/20	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
16	195308	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	5/15/20	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
17	195275	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	9/6/19	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
							X250	SEP 17 2019				2.15 d vs	DP

Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
18	195287	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	11/15/19	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
19	195298	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	2/14/20	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
20	195309	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	5/15/20	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
21	195276	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	9/6/19	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
							X75	SEP 17 2019				1.39 \$ vs	DP
22	195288	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	11/15/19	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
23	195299	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	2/14/20	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
24	195310	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	5/15/20	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
25	195277	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	9/6/19	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50
							X62	SEP 12 2019				1.03 \$ vs	DP
26	195289	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	11/15/19	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50

Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
27	195300	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	2/14/20	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50
28	195311	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	5/15/20	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50
29	195278	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	9/6/19	50 Ea	0 Ea	50 Ea	\$2.20/Ea 6.75 \$ VS	\$110.00
30	195290	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	11/15/19	50 Ea	0 Ea	50 Ea	\$2.20/Ea	\$110.00
31	195301	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	2/14/20	50 Ea	0 Ea	50 Ea	\$2.20/Ea	\$110.00
32	195312	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	5/15/20	50 Ea	0 Ea	50 Ea	\$2.20/Ea	\$110.00
33	195279	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	9/6/19	750 Ea	0 Ea	750 Ea	\$3.10/Ea 4.34 \$ VS	\$2,325.00
34	195291	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	11/15/19	750 Ea	0 Ea	750 Ea	\$3.10/Ea	\$2,325.00
35	195302	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	2/14/20	750 Ea	0 Ea	750 Ea	\$3.10/Ea	\$2,325.00

Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
36	195313	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	5/15/20	750 Ea	0 Ea	750 Ea	\$3.10/Ea	\$2,325.00
37	195280	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	9/6/19	250 Ea 249	0 Ea	250 Ea	\$3.00/Ea 2.40/Ea	\$750.00 OP
							X249	SEP 17 2019					
38	195292	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	11/15/19	250 Ea	0 Ea	250 Ea	\$3.00/Ea	\$750.00
39	195303	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	2/14/20	250 Ea	0 Ea	250 Ea	\$3.00/Ea	\$750.00
40	195314	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	5/15/20	250 Ea	0 Ea	250 Ea	\$3.00/Ea	\$750.00
41	195281	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	9/6/19	75 Ea	0 Ea	75 Ea	\$3.75/Ea 7.65/Ea	\$281.25
42	195293	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	11/15/19	75 Ea	0 Ea	75 Ea	\$3.75/Ea	\$281.25
43	195304	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	2/14/20	75 Ea	0 Ea	75 Ea	\$3.75/Ea	\$281.25
44	195315	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	5/15/20	75 Ea	0 Ea	75 Ea	\$3.75/Ea	\$281.25
Grand Total:													\$26,938.00

Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley.



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
POHB043487



Order Notes

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 5/17/19 11:41 AM Dart.Guarin.Kimberley

E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW, ON K7V 4E7
Canada

Ph: 613-432-6136

Fax: 613-432-8212

Pack List

Number: 144150

Date: 16-Sep-19

To

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ship To

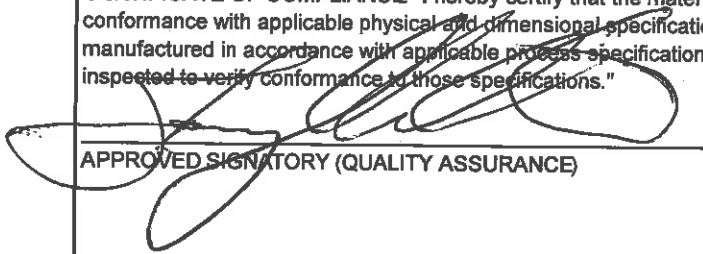
Patrick Lussier
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-5246

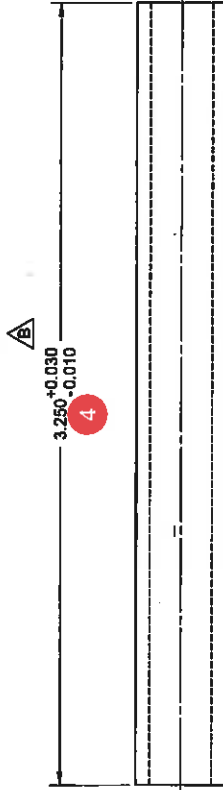
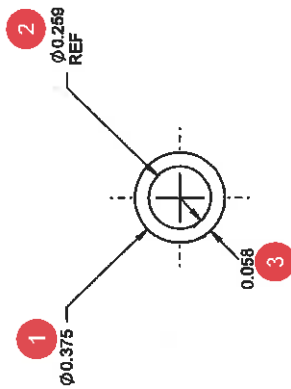
Ph: 613-632-5200

Fax: 613-632-5246

Terms		Ship Via	
Net 30 days			
Quantity	Description		
250 each 249	Part: D4720-1P SPACER SO: 25664 **LOT #107198	Rev: B	PO: POHB043487 Line: 37
KS 17092019 CERTIFICATE OF COMPLIANCE "I hereby certify that the material described above is in conformance with applicable physical and dimensional specifications; that it was manufactured in accordance with applicable process specifications; and has been inspected to verify conformance to those specifications."  APPROVED SIGNATORY (QUALITY ASSURANCE) RECEIVED SEP 17 2019 DART AEROSPACE LTD. DAS 81 9-89			

8 7 6 5 4 3 2 1

D D C B A



D4720-1 SPACER

CONTROLLED COPY

NOTES:
1) MATERIAL: 6061-T4/T42 SEAMLESS ALUMINUM TUBING PER WW-T-7006, AMS 4081, OR ASTM B210 / B221 / B241
5) OR 6061-T6/T62/T6510/T6511 SEAMLESS ALUMINUM TUBING PER WW-T-7006, QQ-A-225/6, AMS 4080 OR AMS 4082 OR AMS 4083, OR ASTM B210 / B221 / B241
REF DART SPEC M6061T6T0.375W.58
HEAT TREAT TO -T4/-T42 CONDITION. MIN UTS = 30 KSI (80 HREW MIN)

- 6) FINISH: NONE
- 7) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 8) UNITS: INCHES UNLESS OTHERWISE NOTED
- 9) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 10) IDENTIFICATION: NONE
- 11) WEIGHT: 0.02 lbs

RELEASED
R 2017-08-11
6017-61

APPROVED

REV.	DESCRIPTION		BY	DATE
	DESIGN	RP		
B	CORRECT MATL CALLOUT PER M6061T6T-ADD 3.160, REASON PART 15-44	SAD	RP	17.01.26
A	NEW ISSUE	RP	RP	12.09.10
DART AEROSPACE USA, INC.				
EUGENE, OR				
DRAWING NO. D4720				
MFG. APPR. DD				
APPROVED CP				
DE APPR. N/A				
DATE 17.01.26				
TITLE SPACER				
SHEET 1 OF 1				
SCALE NTS				
COPYRIGHT © 2015 BY DART AEROSPACE USA, INC.				
THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE				
FOR THE USE OF THE U.S. GOVERNMENT				
DART AEROSPACE USA, INC.				

ETM Industries IncAS9102 Revision B First Article Inspection
Form 1: Part Number Accountability

Page 1 of 4

1. Part Number D4720-1P	2. Part Name SPACER	3. Serial Number N/A	4. FAI Number N/A
5. Part Revision Level REV.B	6. Drawing Number D4720-1	7. Drawing Revision Level REV.B	8. Additional Changes N/A
9. Manufacturing Process Reference 107198	10. Organization Name ETM Industries Inc.	11. Supplier Code N/A	12. P.O. Number POHB043487
13. Detail FAI ☒ Assembly FAI ☐	14. Full FAI ☒ Partial FAI ☐ Reason for Partial FAI: Not Applicable	Baseline Part Number including Revision Level N/A	
a) If above part number is a detail part only, go to Field 19 b) If above part number is an assembly, go to the "Index" section below.			
INDEX of part numbers or sub assembly numbers required to make the assembly noted above.			
15. Part Number N/A	16. Part Name N/A	17. Part Serial Number N/A	18. FAI Report Number N/A
1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.			
2) Also indicate if the FAI is complete per Section 5.4: ☒ FAI Complete ☐ FAI Not Complete			
19. Signature BARRY DUPUIS		20. Date 9/16/19	
21. Reviewed by		22. Date	
23. Customer Approval		24. Date	

ETM Industries Inc

AS9102 Revision B First Article Inspection

Page 2 of 4

Form 2: Product Accountability – Raw Material, Specifications and Special Process(es),
Functional Testing

1. Part Number D4720-1P	2. Part Name SPACER		3. Serial Number N/A		4. FAI Report Number N/A
5. Material or Process – Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/N/A)	10. Certificate of Conformance Number
ALUMINUM	6061-T4/-T42 SEAMLESS ALUMINUM TUBING PER WW-T-700/6, AMS 4081, OR ASTM B210/B221/B241. REF DART SPEC M6061T4T0.375W.058 OR 6061-T6/-T62/-T6511 SEAMLESS ALUMINUM TUBING PER WW-T-700/6, QQ-A-200/8, QQ-A-225/8, AMS 4080 OR AMS 4082 OR AMS 4083, OR ASTM B210/B221/B241. REF M6061T6T0.375W.58.	N/A	N/A	N/A	KAISER LOT# F00298040
	H/TREAT TO -T4/-T42 CONDITION, MUN UTS = 30 KSI(60 HREW MIN)	N/A	N/A	N/A	VAC AERO CERT # MTL 164577-1
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				
Not Applicable	Not Applicable				
13. Comments					
14. Prepared By BARRY DUPUIS					
				15. Date 9/16/19	

ETM Industries Inc

AS9102 Revision B First Article Inspection

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 3 of 4

1. Part Number		2. Part Name		3. Serial Number		4. FAI Report	
D4720-1P		SPACER		N/A		N/A	
Characteristic Accountability				Inspection / Test Results			
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents
1	SHT.1	N/A	0.375 DIA.	0.376	MICROMETER	N/A	N/A
2	SHT.1	N/A	0.259 DIA.	0.260	CALIPERS	N/A	N/A
3	SHT.1	N/A	0.058	0.060	CALIPERS	N/A	N/A
4	SHT.1	N/A	3.250 +0.030/-0.010	3.260	HEIGHT GAUGE	N/A	N/A
5	SHT.1	N/A	1) MATERIAL:6061-T4/-T42 SEAMLESS ALUMINUM TUBING PER WW-T-700/6,AMS 4081,OR ASTM B210/B221/B241. REF DART SPEC M6061T4TO.375W.058 OR 6061-T6/-T62/-T6511 SEAMLESS ALUMINUM TUBING PER WW-T-700/6,QQ-A-200/8,QQ-A-225/8,AMS 4080 OR AMS 4082 OR AMS 4083,OR ASTM B210/B221/B241. REF M6061T6T0.375W.58. H/TREAT TO -T4/-T42 CONDITION,MUN UTS = 30 KSI(60 HREW MIN)	ACCEPT	VERIFY	N/A	KAISER LOT# F00298040
6	SHT.1	N/A	2) FINISH:NONE	ACCEPT	VERIFY	N/A	VAC AERO CERT # MTL 164577-1

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

BARRY DUPUIS

13. Date

9/16/19

ETM Industries Inc

AS9102 Revision B First Article Inspection

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 4 of 4

1. Part Number D4720-1P		2. Part Name SPACER		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results			
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents
7	SHT.1	N/A	3)TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED	ACCEPT	VERIFY	N/A	N/A
8	SHT.1	N/A	4)UNITS: INCHES UNLESS OTHERWISE NOTED	ACCEPT	VERIFY	N/A	N/A
9	SHT.1	N/A	5)BREAK SHARP EDGES: 0.005 TO 0.010 MAX	ACCEPT	VERIFY	N/A	N/A
10	SHT.1	N/A	6) IDENTIFICATION: NONE	ACCEPT	VERIFY	N/A	N/A
11	SHT.1	N/A	WEIGHT: 0.02LBS	0.018 LBS.	DIGITAL SCALE	N/A	N/A

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

BARRY DUPUIS

13. Date

9/16/19



VAC AERO
INTERNATIONAL INC.

CERTIFICAT DE CONFORMITÉ / CERTIFICATE OF CONFORMITY

MTL 164577-1

NO. T.P.S. / GST NO. : R105468102

09/12/2019

MM / DD / YYYY

PAGE : 1

☐ HEAD OFFICE
1371 SPEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7489

☒ QUEBEC DIVISION
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
CANADA H4S 1C5
TEL: (514) 334-4240 FAX: (514) 334-6269

VENDU À: 2ETM01
BILL TO: E T M INDUSTRIES INC
310 HALL AVENUE BOX 610
RENFREW, ONTARIO

EXPÉDIÉ À:
SHIP TO: E T M INDUSTRIES INC
310 HALL AVENUE
RENFREW, ONTARIO

K7V 4E7

K7V 4E7

EXPÉDIÉ LE / DATE SHIPPED	EXPÉDIÉ PAR /SHIP VIA	F.A.B. / F.O.B.
09/12/2019	THEIR TRUCK	
NO. DE COMMANDE DU CLIENT / CUSTOMER P/O NO.	TERMES / TERMS	
115451	NET 30 DAYS	

NO D'ARTICLE PART No.	DESCRIPTION DU PRODUIT DESCRIPTION	MU UOM	QTÉE COMM. QTY ORD.	QTÉE EXP. QTY SHPD.	TEST RESULTS
D4686-1P	SPACER REV: B JOB NO. 107199	ea	61	61	
D4720-1P	SPACER REV: B JOB NO. 107198	ea	167	167	
Process Specifications: MATERIAL: 6061-T6 WW-T-700/6 AMS4080 SOLUTION HEAT TREATED AT 985+/-10F FOR 50-55 MIN. FURNACE #4 AND WATER QUENCHED (QUENCH DELAY 8 SECONDS AND FINAL QUENCH TEMPERATURE 78-82 F) THEN NATURAL AGING AT ROOM TEMPERATURE TO T42 CONDITION PER AMS 2770 N INSPECTED PER AMS 2658 D >>> REFERENCES: REPORT #T-164577-2 REPORT #T-164577-3 REPORT #T-164577-4					

**PARTIAL
SHIPMENT**

TOUS LES PARAMÈTRES DES CYCLES DE TRAITEMENT THERMIQUE ONT ÉTÉ VÉRIFIÉS SUR LES CHARTES DE FOUR ET RENCONTRENT LES EXIGENCES STIPULÉES PAR LE CLIENT
ALL HEAT TREATING CYCLE PARAMETERS WERE VERIFIED ON FURNACE CHARTS AND ARE IN COMPLIANCE WITH CUSTOMER REQUIREMENTS.

Par la présente, je certifie que le matériel de a été inspecté et vérifié et est conforme à toutes les caractéristiques et conditions demandées
dans le contrat et/ou sur le bon de commande.

I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant
thereto in accordance with the conditions of the contract / or purchase order.

POUR ET AU NOM DE, VAC AERO INTERNATIONAL INC.

Personne autorisée du contrôle de qualité
Authorized Q.C. Inspector



METAL TREATING INSTITUTE

TRAITEMENTS THERMIQUES SOUS VIDE - NITRURATION - MÉTALLISATION - PROCÉDÉS SPÉCIAUX
VACUUM BRAZING - HEAT TREATING - SPECIAL PROCESSING - FURNACE EQUIPMENT
THERMAL COMPONENT OVERHAUL - DIAPHRAGM AND OTHER COATINGS



Heat Treating • Welding



VAC AERO INTERNATIONAL
ALUMINUM TEMPER INSPECTION REPORT

Customer : ETM INDUSTRIES

Report No : T-164577-4

Part Number : D4720-1P

Customer P.O. No : 115451

Batch No : 164577-4

Testing Method(s) : VAIM 7101 Iss. 33

Testing Specification(s) : AMS 2658 rev D

Equipment used

Hardness : INDENTRON 600

Temperature (°F): 76

Conductivity : N/A

Humidity (%): 66

Sampling : ☐

100% testing : ☒

HARDNESS RESULTS

64,0 - 69,5 HREw
(66,5 - 69,3 HR15Tw)

REQUIREMENTS

60 HREw min.
(64,5 HR15Tw min.)

CONDUCTIVITY RESULTS

N/A (too small to test)

REQUIREMENTS

35,5 - 43,0 % IACS

DISPOSITION: RESULTS OBTAINED MEET CUSTOMER REQUIREMENTS

Inspected by:

GV

Approved by:

MC

Date: 11 SEPTEMBER 2019

Date: 11 SEPTEMBER 2019

KAISER ALUMINUM

FABRICATED PRODUCTS

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49399774-1		CUSTOMER PART NUMBER: 41952		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 228138	LINE ITEM: 001	SHIP DATE: 04/30/2019	KAISER LOT NUMBER: F00298040	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 779.000 LB	QUANTITY: 959.000 PCS	B/L NUMBER: 233384	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

Actual Physical Properties

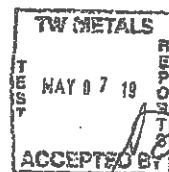
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00298040	0001	0001	46.9	33.5	17.0	N/A	N/A	N/A
F00298040	0002	0001	46.8	33.5	17.5	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D3023A	.59	.29	.22	.05	.99	.10	.06	.03	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.3750"; Wall: 0.0580"; Round @
AMS4082P AMS-WW-T-700/6C ASTM B210-12
WE TAKE EXCEPTION TO PARA. 5.2.1... Per AMS4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



DAS
81
9-89

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00031526
Kaiser Order Number: 228138
Line Item: 001

KAISER ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Nathaniel Stevens, Quality Manager

